# An Entropy Based Method For Resource Leveling

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**Neutrosophic Sets and Systems, vol. 14/2016** - K Mondal
"Neutrosophic Sets and Systems" has been created for publications on advanced studies in neutrosophy, neutrosophic set, neutrosophic logic, neutrosophic probability, neutrosophic statistics that started in 1995 and their applications in any field, such as the neutrosophic structures developed in algebra, geometry, topology, etc.
*Copulas and Its Application in Hydrology and Water Resources* - Lu Chen 2018-06-28
This book presents an overview of copula theory and its application in hydrology, and provides valuable insights, useful methods and practical applications for multivariate hydrological analysis using copulas. In addition, it extends the traditional bivariate model to trivariate or multivariate models. The specific applications covered include the study of flood frequency analysis, drought frequency analysis, dependence analysis, flood coincidence risk analysis and statistical simulation using copulas. The book offers a valuable guide for researchers, scientists and engineers working in hydrology and water resources, and will also benefit graduate or doctoral students with a basic grasp of copula functions who want to learn about the latest research developments in the field.
*Image Processing with MATLAB* - Omer Demirkaya 2008-12-22
Image Processing with MATLAB: Applications in Medicine and Biology explains complex, theory-laden topics in image processing through examples and MATLAB algorithms. It describes classical as well emerging areas in image processing and analysis. Providing many unique MATLAB codes and functions throughout, the book covers the theory of probability an
**Handbook of Ripple Effects in the Supply Chain** - Dmitry Ivanov 2019-04-17
This book offers an introduction to the ripple effect in the supply chain for a broad audience comprising recent developments. The chapters of this handbook are written by leading experts in supply chain risk management and resilience. For the first time, the chapters present in their synergy a multiple-faceted view of the ripple effect in supply chains, while considering organization, optimization, and informatics perspectives. Ripple effect describes the impact of a disruption propagation on supply chain performance, structural designs and operational parameters. The ripple effect manifests when the impact of a disruption cannot be localized and cascades along the supply chain. The resulting structural dynamics can lead to capacity and demand fulfilment downscaling and negatively influence the firm's financial and operational performance. The book delineates major features of the ripple effect and methodologies to mitigate the adverse impact of supply chain disruption propagation and to recover in case of severe disruptions. The book provides fresh insights for supply chain management and engineering regarding the following questions: - In what circumstance does one failure cause other failures? - Which structures of the supply chain are especially susceptible to the ripple effect? - What are the typical ripple effect scenarios and what are the most efficient ways to respond them? Distinctive

Features: • It considers ripple effect in the supply chain from an multi-disciplinary perspective• It offers an introduction to ripple effect mitigation and recovery policies in the framework of disruption risk management in supply chains for a broad audience• It integrates management and engineering perspectives on disruption risk management in the supply chain• It presents innovative optimization and simulation models for real-life management problems• It considers examples from both industrial and service supply chains• It reveals decision-making recommendations for tackling disruption risks in the supply chain in proactive and reactive domains.

*New Industry 4.0 Advances in Industrial IoT and Visual Computing for Manufacturing Processes* - Luis Norberto López de Lacalle 2020-03-18
Modern factories are experiencing rapid digital transformation supported by emerging technologies, such as the Industrial Internet of things (IIOT), industrial big data and cloud technologies, deep learning and deep analytics, AI, intelligent robotics, cyber-physical systems and digital twins, complemented by visual computing (including new forms of artificial vision with machine learning, novel HMI, simulation, and visualization). This is evident in the global trend of Industry 4.0. The impact of these technologies is clear in the context of high-performance manufacturing. Important improvements can be achieved in productivity, systems reliability, quality verification, etc. Manufacturing processes, based on advanced mechanical principles, are enhanced by big data analytics on industrial sensor data. In current machine tools and systems, complex sensors gather useful data, which is captured, stored, and processed with edge, fog, or cloud computing. These processes improve with digital monitoring, visual data analytics, AI, and computer vision to achieve a more productive and reliable smart factory. New value chains are also emerging from these technological changes. This book addresses these topics, including contributions deployed in production, as well as general aspects of Industry 4.0.

*Machine Translation* - Derek F. Wong 2017-11-13
This book constitutes the refereed proceedings of the 13th China Workshop on Machine Translation, CWMT 2017, held in Dalian, China, in September 2017. The 10 papers presented in this volume were carefully reviewed and selected from 26 submissions and focus on all aspects of machine translation, including preprocessing, neural machine translation models, hybrid model, evaluation method, and post-editing.

**Information Technology - New Generations** - Shahram Latifi 2018-04-12
This volume presents a collection of peer-reviewed, scientific articles from the 15th International Conference on Information Technology – New Generations, held at Las Vegas. The collection addresses critical areas of Machine Learning, Networking and Wireless Communications, Cybersecurity, Data Mining, Software Engineering, High Performance Computing Architectures, Computer Vision, Health, Bioinformatics, and Education.

**Recent Developments in Sustainable Infrastructure** - Bibhuti Bhusan Das 2020-07-03
This book comprises select peer-reviewed proceedings of the International Conference on Recent Developments in Sustainable Infrastructure (ICRDSI) 2019. The topics span over all major disciplines of civil engineering with regard to sustainable development of infrastructure and innovation in construction materials, especially concrete. The book covers numerical and analytical studies on various topics such as composite and sandwiched structures, green building, groundwater modeling, rainwater harvesting, soil dynamics, seismic resistance and control of structures, waste management, structural health monitoring, and geo-environmental engineering. This book will be useful for students, researchers and professionals working in sustainable technologies in civil engineering.

Applied Methods for Agriculture and Natural Resource Management - Siwa Msangi 2019-05-17
This book assesses recent developments in the analysis of agricultural policy and water resource management, and highlights the utility and theoretical rigor of quantitative methods for modeling agricultural production, market dynamics, and natural resource management. In diverse case studies of the intersection between

agriculture, environmental quality and natural resource sustainability, the authors analyze economic behavior - both at aggregate as well as at individual agent-level - in order to highlight the practical implications for decision-markers dealing with environmental and agricultural policy. The volume also addresses the challenges of doing robust analysis with limited data, and discusses the appropriate empirical approaches that can be employed. The studies in this book were inspired by the work of Richard E. Howitt, Emeritus Professor of Agricultural Economics at the University of California at Davis, USA, whose career has focused on the application of robust empirical methods to address concrete policy problems.

Entropy in Foundations of Quantum Physics - Marcin Pawłowski 2020-12-15
This book is a collection of outstanding papers on various aspects of entropy at the foundation of quantum physics. The covered topics range from purely foundational issues such as contextuality and Bell and Leggett–Garg inequalities to applications such as quantum key distribution, teleportation, and image encoding. The main ingredient binding them together in this book is that in all of the contained papers, entropy plays a key role either as a mathematical tool or as a link which bridges the gap between different fields of science.

*Mobile Cloud Computing* - Debashis De 2016-01-06
Minimize Power Consumption and Enhance User ExperienceEssential for high-speed fifth-generation mobile networks, mobile cloud computing (MCC) integrates the power of cloud data centers with the portability of mobile computing devices. Mobile Cloud Computing: Architectures, Algorithms and Applications covers the latest technological and architectura

Risk Analysis Based on Data and Crisis Response Beyond Knowledge - Chongfu Huang 2019-10-11
This book collects the papers presented at the 7th International Conference on Risk Analysis and Crisis Response (RACR-2019) held in Athens, Greece, on October 15-19, 2019. The overall theme of the seventh international conference on risk analysis and crisis response is Risk Analysis Based on Data and Crisis Response Beyond Knowledge, highlighting science and technology to improve risk analysis

capabilities and to optimize crisis response strategy. This book contains primarily research articles of risk issues. Underlying topics include natural hazards and major (chemical) accidents prevention, disaster risk reduction and society resilience, information and communication technologies safety and cybersecurity, modern trends in crisis management, energy and resources security, critical infrastructure, nanotechnology safety and others. All topics include aspects of multidisciplinarity and complexity of safety in education and research. The book should be valuable to professors, engineers, officials, businessmen and graduate students in risk analysis and risk management.

**Handbook on Project Management and Scheduling Vol. 2** - Christoph Schwindt 2015-01-13
Due to the increasing importance of product differentiation and collapsing product life cycles, a growing number of value-adding activities in the industry and service sector are organized in projects. Projects come in many forms, often taking considerable time and consuming a large amount of resources. The management and scheduling of projects represents a challenging task and project performance may have a considerable impact on an organization's competitiveness. This handbook presents state-of-the-art approaches to project management and scheduling. More than sixty contributions written by leading experts in the field provide an authoritative survey of recent developments. The book serves as a comprehensive reference, both, for researchers and project management professionals. The handbook consists of two volumes. Volume 1 is devoted to single-modal and multi-modal project scheduling. Volume 2 presents multi-project problems, project scheduling under uncertainty and vagueness, managerial approaches and a separate part on applications, case studies and information systems.

Selected Water Resources Abstracts - 1991

**Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management. Healthcare and Safety of the Environment and Transport** - Vincent G. Duffy 2013-06-28
This two volume set (LNCS 8025-8026)

constitutes the refereed proceedings of the Fourth International Conference on Digital Human Modeling and Applications in Health, Safety, Ergonomics and Risk Management, formerly International Conference on Digital Human Modeling, DHM 2013, held as part of the 15th International Conference on Human-Computer Interaction, HCII 2013, held in Las Vegas, USA in July 2013, jointly with 12 other thematically similar conferences. The total of 1666 papers and 303 posters presented at the HCII 2013 conferences was carefully reviewed and selected from 5210 submissions. These papers address the latest research and development efforts and highlight the human aspects of design and use of computing systems. The papers accepted for presentation thoroughly cover the entire field of Human-Computer Interaction, addressing major advances in knowledge and effective use of computers in a variety of application areas. This two-volume set contains 91 papers. The papers in this volume focus on the following topics: driving and aviation safety, human factors and digital human modeling in healthcare, and safety of the human environment.

**Neutrosophic Sets and Systems, book series, Vol. 13, 2016** - Florentin Smarandache Abstract: Contributors to current issue (listed in papers' order): K Mondal, S. Pramanik, F. Smarandache, M. A. Malik, A. Hassan, S. Broumi, S. K. De, I. Beg, A. N. H. Zaied, H. M. Naguib, N. Shah, A. A. Salama, M. Eisa, H. E. Ghawalby, A. E. Fawzy, M. Sarkar, S. Dey, T. K. Roy, S. Karatas, C. Kuru, P. J. M. Vera, C. F. M. Delgado, M. P. Gónzalez, M. L. Vázquez, Tuhin Bera, and Nirmal Kumar Mahapatra. Papers in current issue (listed in papers' order): Multi-attribute Decision Making based on Rough Neutrosophic Variational Coefficient Similarity Measure; Regular Single Valued Neutrosophic Hypergraphs; Triangular Dense Fuzzy Neutrosophic Sets; Applications of Fuzzy and Neutrosophic Logic in Solving Multi-criteria Decision Making Problems; Irregular Neutrosophic Graphs; Neutrosophic Features for Image Retrieval; Truss Design Optimization using Neutrosophic Optimization Technique; Marketing skills as determinants that underpin the competitiveness of the rice industry in Yaguachi canton. Application of SVN numbers to the prioritization of strategies; Classical Logic and Neutrosophic Logic. Answers to K. Georgiev; Regular Bipolar Single Valued Neutrosophic Hypergraphs; Neutrosophic Topology; Neutrosophic crisp Sets via Neutrosophic crisp Topological Spaces; Rough Neutrosophic TOPSIS for Multi-Attribute Group Decision Making; Introduction to Neutrosophic Soft Groups. Keywords: neutrosophy, neutrosophic set, neutrosophic logic, neutrosophic probability, neutrosophic statistics, neutrosophic measure, neutrosophic applications.

*An Introduction to Project Modeling and Planning* - Gündüz Ulusoy 2021-04-05 This textbook teaches the basic concepts and methods of project management but also explains how to convert them to useful results in practice. Project management offers a promising working area for theoretical and practical applications, and developing software and decision support systems (DSS). This book specifically focuses on project planning and control, with an emphasis on mathematical modeling. Models and algorithms establish a good starting point for students to study the relevant literature and support pursuing academic work in related fields. The book provides an introduction to theoretical concepts, and it also provides detailed explanations, application examples, and case studies that deal with real-life problems. The chapter topics include questions that underlie critical thinking, interpretation, analytics, and making comparisons. Learning outcomes are defined and the content of the book is structured following these goals. Chapter 1 begins by introducing the basic concepts, methods, and processes of project management. This Chapter constitutes the base for defining and modeling project management problems. Chapter 2 explores the fundamentals of organizing and managing projects from an organization's perspective. Issues related to project team formation, the role of project managers, and organization types are discussed. Chapter 3 is devoted to project planning and network modeling of projects, covering fundamental concepts such as project scope, Work Breakdown Structure (WBS), Organizational Breakdown Structure (OBS), Cost Breakdown

Structure (CBS), project network modeling, activity duration, and cost estimating, activity-based costing (ABC), data and knowledge management. Chapter 4 introduces deterministic scheduling models, which can be used in constructing the time schedules. Models employing time-based and finance-based objectives are introduced. The CPM is covered. The unconstrained version of maximizing Net Present Value (NPV) is also treated here together with the case of time-dependent cash flows. Chapter 5 focuses on the time/cost trade-off problem, explaining how to reduce the duration of some of the activities and therefore reduce the project duration at the expense of additional costs. This topic is addressed for both continuous and discrete cases. Chapter 6 discusses models and methods of scheduling under uncertain activity durations. PERT is introduced for minimizing the expected project duration and extended to the PERT-Costing method for minimizing the expected project cost. Simulation is presented as another approach for dealing with the uncertainty in activity durations and costs. To demonstrate the use of the PERT, a case study on constructing an earthquake-resistant residential house is presented. Classifications of resource and schedule types are given in Chapter 7, and exact and heuristic solution procedures for the single- and multi-mode resource constrained project scheduling problem (RCPSP) are presented. The objective of maximizing NPV under resource constraints is addressed, and the capital-constrained project scheduling model is introduced. In Chapter 8, resource leveling, and further resource management problems are introduced. Total adjustment cost and resource availability cost problems are introduced. Various exact models are investigated. A heuristic solution procedure for the resource leveling problem is presented in detail. Also, resource portfolio management policies and the resource portfolio management problem are discussed. A case study on resource leveling dealing with the annual audit project of a major corporation is presented. Project contract types and payment schedules constitute the topics of Chapter 9. Contracts are legal documents reflecting the results of some form of client-contractor negotiations and sometimes of a bidding process, which deserve closer

attention. Identification and allocation of risk in contracts, project control issues, disputes, and resolution management are further topics covered in this Chapter. A bidding model is presented to investigate client-contractor negotiations and the bidding process from different aspects. Chapter 10 focuses on processes and methods for project monitoring and control. Earned Value Management is studied to measure the project performance throughout the life of a project and to estimate the expected project time and cost based on the current status of the project. How to incorporate inflation into the analysis is presented. In Chapter 11, qualitative and quantitative techniques including decision trees, simulation, and software applications are introduced. Risk phases are defined and building a risk register is addressed. An example risk breakdown structure is presented. The design of risk management processes is introduced, and risk response planning strategies are discussed. At the end of the Chapter, the quantitative risk analysis is demonstrated at the hand of a team discussion case study. Chapter 12 covers several models and approaches dealing with various stochastic aspects of the decision environment. Stochastic models, generation of robust schedules, use of reactive and fuzzy approaches are presented. Sensitivity and scenario analysis are introduced. Also, simulation analysis, which is widely used to analyze the impacts of uncertainty on project goals, is presented. Chapter 13 addresses repetitive projects that involve the production or construction of similar units in batches such as railway cars or residential houses. Particularly in the construction industry repetitive projects represent a large portion of the work accomplished in this sector of the economy. A case study on the 50 km section of a motorway project is used for demonstrating the handling of repetitive project management. How best to select one or more of a set of candidate projects to maintain a project portfolio is an important problem for project-based organizations with limited resources. The project selection problem is inherently a multi-objective problem and is treated as such in Chapter 14. Several models and solution techniques are introduced. A multi-objective, multi-period project selection and scheduling model is presented. A case study that

addresses a project portfolio selection and scheduling problem for the construction of a set of dams in a region is presented. Finally, Chapter 15 discusses three promising research areas in project management in detail: (i) Sustainability and Project Management, (ii) Project Management in the Era of Big Data, and (iii) the Fourth Industrial Revolution and the New Age Project Management. We elaborate on the importance of sustainability in project management practices, discuss how developments in data analytics might impact project life cycle management, and speculate how the infinite possibilities of the Fourth Industrial Revolution and the new technologies will transform project management practices.

*Neutrosophic Sets and Systems, vol. 13/2016* - Florentin Smarandache
"Neutrosophic Sets and Systems" has been created for publications on advanced studies in neutrosophy, neutrosophic set, neutrosophic logic, neutrosophic probability, neutrosophic statistics that started in 1995 and their applications in any field, such as the neutrosophic structures developed in algebra, geometry, topology, etc.

**Introduction to Tsallis Entropy Theory in Water Engineering** - Vijay P. Singh 2016-01-05
Focuses On an Emerging Field in Water EngineeringA broad treatment of the Tsallis entropy theory presented from a water resources engineering point of view, Introduction to Tsallis Entropy Theory in Water Engineering fills a growing need for material on this theory and its relevant applications in the area of water engineering. This self-contained

*Index Medicus* - 2002

Rock Mechanics for Natural Resources and Infrastructure Development - Full Papers - Sergio A.B. da Fontoura 2019-09-03
Rock Mechanics for Natural Resources and Infrastructure Development contains the proceedings of the 14th ISRM International Congress (ISRM 2019, Foz do Iguaçu, Brazil, 13-19 September 2019). Starting in 1966 in Lisbon, Portugal, the International Society for Rock Mechanics and Rock Engineering (ISRM) holds its Congress every four years. At this 14th occasion, the Congress brings together researchers, professors, engineers and students

around contemporary themes relevant to rock mechanics and rock engineering. Rock Mechanics for Natural Resources and Infrastructure Development contains 7 Keynote Lectures and 449 papers in ten chapters, covering topics ranging from fundamental research in rock mechanics, laboratory and experimental field studies, and petroleum, mining and civil engineering applications. Also included are the prestigious ISRM Award Lectures, the Leopold Muller Award Lecture by professor Peter K. Kaiser. and the Manuel Rocha Award Lecture by Dr. Quinghua Lei. Rock Mechanics for Natural Resources and Infrastructure Development is a must-read for academics, engineers and students involved in rock mechanics and engineering. Proceedings in Earth and geosciences - Volume 6 The 'Proceedings in Earth and geosciences' series contains proceedings of peer-reviewed international conferences dealing in earth and geosciences. The main topics covered by the series include: geotechnical engineering, underground construction, mining, rock mechanics, soil mechanics and hydrogeology.

*Neutrosophic Operational Research* - Florentin Smarandache 2021-09-09
This book addresses new concepts, methods, algorithms, modeling, and applications of green supply chain, inventory control problems, assignment problems, transportation problem, linear problems and new information related to optimization for the topic from the theoretical and applied viewpoints of neutrosophic sets and logic. The book is an innovatory of new tools and procedures, such as: Neutrosophic Statistical Tests and Dependent State Samplings, Neutrosophic Probabilistic Expert Systems, Neutrosophic HyperSoft Set, Quadripartitioned Neutrosophic Cross-Entropy, Octagonal and Spherical and Cubic Neutrosophic Numbers used in machine learning. It highlights the process of neutrosofication {which means to split the universe into three parts, two opposite ones (Truth and Falsehood), and an Indeterminate or neutral one (I) in between them}. It explains Three-Ways Decision, how the universe set is split into three different distinct areas, in regard to the decision process, representing: Acceptance, Noncommitment, and Rejection, respectively. The Three-Way Decision

is used in the Neutrosophic Linguistic Rough Set, which has never been done before.

*Rough Neutrosophic TOPSIS for Multi-Attribute Group Decision Making* - Kalyan Mondal This paper is devoted to present Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) method for multi-attribute group decision making under rough neutrosophic environment.

**Water Resources Management IV** - C.A. Brebbia 2007-05-08

Water resources are under extreme pressure today all over the world. The resulting problems have given rise to many activities which reflect the growing concern about them and the importance of effective management.As water increasingly becomes a precious resource on which the well-being of future generations depends, it is essential to discuss issues concerning quality, quantity, planning and other related topics.Containing papers presented at the Fourth International Conference on Water Resources Management, this book examines the recent technological and scientific developments associated with the management of surface and sub-surface water resources. The wide variety of subjects covered are as follows: Water Resource Management and Planning; Waste Water Treatment and Management; Water Markets and Policies; Urban Water Management; Water Quality; Storm Water Management; Water Security Systems; Pollution Control; Irrigation Problems; Reservoirs and Lakes; River Basin Management; Hydrological Modelling; Flood Risk; Decision Support Systems; Groundwater Flow Problems and Remediation Technologies; Coastal and Estuarial Problems; Soil and Water Conservation and Risk Analysis.

**Issues in Structural and Materials Engineering: 2011 Edition** - 2012-01-09 Issues in Structural and Materials Engineering: 2011 Edition is a ScholarlyEditions™ eBook that delivers timely, authoritative, and comprehensive information about Structural and Materials Engineering. The editors have built Issues in Structural and Materials Engineering: 2011 Edition on the vast information databases of ScholarlyNews.™ You can expect the information about Structural and Materials Engineering in this eBook to be deeper than what you can access anywhere else, as well as

consistently reliable, authoritative, informed, and relevant. The content of Issues in Structural and Materials Engineering: 2011 Edition has been produced by the world's leading scientists, engineers, analysts, research institutions, and companies. All of the content is from peer-reviewed sources, and all of it is written, assembled, and edited by the editors at ScholarlyEditions™ and available exclusively from us. You now have a source you can cite with authority, confidence, and credibility. More information is available at http://www.ScholarlyEditions.com/.

*Biomedical Signal and Image Examination with Entropy-Based Techniques* - V. Rajinikanth 2020-12-21

The aim of this book is to outline the concept of entropy, various types of entropies and their implementation to evaluate a variety of biomedical signals/images. The book emphasizes various entropy-based image pre-processing methods which are essential for the development of suitable computerized examination systems. The recent research works on biomedical signal evaluation confirms that signal analysis provides vital information regarding the physiological condition of the patient, and the efficient evaluation of these signals can help to diagnose the nature and the severity of the disease. This book emphasizes various entropy-based image pre-processing methods which are essential for the development of suitable computerized examination systems for the analysis of biomedical images recorded with a variety of modalities. The work discusses the image pro-processing methods with the Entropies, such as Kapur, Tsallis, Shannon and Fuzzy on a class of RGB-scaled and gray-scaled medical pictures. The performance of the proposed technique is justified with the help of suitable case studies, which involves x-ray image analysis, MRI analysis and CT analysis. This book is intended for medical signal/image analysts, undergraduate and postgraduate students, researchers, and medical scientists interested in biomedical data evaluation.

**Population-Based Approaches to the Resource-Constrained and Discrete-Continuous Scheduling** - Ewa Ratajczak-Ropel 2017-08-21

This book addresses two of the most difficult and

computationally intractable classes of problems: discrete resource constrained scheduling, and discrete-continuous scheduling. The first part of the book discusses problems belonging to the first class, while the second part deals with problems belonging to the second class. Both parts together offer valuable insights into the possibility of implementing modern techniques and tools with a view to obtaining high-quality solutions to practical and, at the same time, computationally difficult problems. It offers a valuable source of information for practitioners dealing with the real-world scheduling problems in industry, management and administration. The authors have been working on the respective problems for the last decade, gaining scientific recognition through publications and active participation in the international scientific conferences, and their results are obtained using population-based methods. Dr E. Ratajczk-Ropel explores multiple agent and A-Team concepts, while Dr A. Skakovski focuses on evolutionary algorithms with a particular focus on the population learning paradigm.

**Construction Management** - Daniel W. Halpin 2017-08-07
It's often said that the construction professional has to be a "jack of all trades, and master of all." This text covers a wide range of subjects, reflecting the breadth of knowledge needed to understand the dynamics of this large and complex industry. This edition includes updated chapters on planning and scheduling, a new chapter addressing linear scheduling methods, material regarding the historical background of construction as a profession, and includes an Instructor Resource of solutions to the end-of-chapter review exercises. This text has become a standard course text at many universities. The first four editions have enjoyed wide success as an introductory treatment of the subjects which are critical to success in the construction industry. This fifth edition preserves the features that have been most appreciated by its users throughout the years, and adds suggestions provided by instructors and students through formal surveys and informal feedback to the authors.

**Critical Developments and Applications of Swarm Intelligence** - Shi, Yuhui 2018-02-28
Artificial intelligence is a constantly advancing field that requires models in order to accurately create functional systems. The use of natural acumen to create artificial intelligence creates a field of research in which the natural and the artificial meet in a new and innovative way. Critical Developments and Applications of Swarm Intelligence is a critical academic publication that examines developing research, technologies, and function regarding natural and artificial acumen specifically, in regards to self-organized systems. Featuring coverage on a broad range of topics such as evolutionary algorithms, optimization techniques, and computational comparison, this book is geared toward academicians, students, researchers, and engineers seeking relevant and current research on the progressive research based on the implementation of swarm intelligence in self-organized systems.

*Application of Mathematics and Optimization in Construction Project Management* - Hêriş Golpîra 2021
This book provides a broad overview of project and project management principles, processes, and success/failure factors. It also provides a state of the art of applications of the project management concepts, especially in the field of construction projects, based on the Project Management Body of Knowledge (PMBOK). The slate of geographically and professionally diverse authors illustrates project management as a multidisciplinary undertaking that integrates renewable and non-renewable resources in a systematic process to achieve project goals. The book describes assessment based on technical and operational goals and meeting schedules and budgets. Investigates optimization and decision-making techniques based on the structure of the PMBOK standard; Covers all decision-making techniques employed in the project management; Includes discussion on future orientations; Organized for professional and academic readers.

*Computational Intelligence Techniques in Diagnosis of Brain Diseases* - Sasikumar Gurumoorthy 2017-09-05
This book highlights a new biomedical signal processing method of extracting a specific underlying signal from possibly noisy multi-channel recordings, and shows that the method is suitable for extracting independent

components from the measured electroencephalogram (EEG) signal. The system efficiently extracts memory spindles and is also effective in Alzheimer seizures. Current developments in computer hardware and signal processing have made it possible for EEG signals or "brain waves" to communicate between humans and computers – an area that can be extended for use in this domain.

**Advances in Intelligent Systems and Computing V** - Natalya Shakhovska 2020-12-22
This book reports on new theories and applications in the field of intelligent systems and computing. It covers cutting-edge computational and artificial intelligence methods, advances in computer vision, big data, cloud computing, and computation linguistics, as well as cyber-physical and intelligent information management systems. The respective chapters are based on selected papers presented at the workshop on intelligent systems and computing, held during the International Conference on Computer Science and Information Technologies, CSIT 2020, which was jointly organized on September 23-26, 2020, by the Lviv Polytechnic National University, Ukraine, the Kharkiv National University of Radio Electronics, Ukraine, and the Technical University of Lodz, Poland, under patronage of Ministry of Education and Science of Ukraine. Given its breadth of coverage, the book provides academics and professionals with extensive information and a timely snapshot of the field of intelligent systems, and is sure to foster new discussions and collaborations among different groups.

*Neural Information Processing* - Bao-Liang Lu 2011-10-26
The three volume set LNCS 7062, LNCS 7063, and LNCS 7064 constitutes the proceedings of the 18th International Conference on Neural Information Processing, ICONIP 2011, held in Shanghai, China, in November 2011. The 262 regular session papers presented were carefully reviewed and selected from numerous submissions. The papers of part I are organized in topical sections on perception, emotion and development, bioinformatics, biologically inspired vision and recognition, bio-medical data analysis, brain signal processing, brain-computer interfaces, brain-like systems, brain-

realistic models for learning, memory and embodied cognition, Clifford algebraic neural networks, combining multiple learners, computational advances in bioinformatics, and computational-intelligent human computer interaction. The second volume is structured in topical sections on cybersecurity and data mining workshop, data mining and knowledge doscovery, evolutionary design and optimisation, graphical models, human-originated data analysis and implementation, information retrieval, integrating multiple nature-inspired approaches, Kernel methods and support vector machines, and learning and memory. The third volume contains all the contributions connected with multi-agent systems, natural language processing and intelligent Web information processing, neural encoding and decoding, neural network models, neuromorphic hardware and implementations, object recognition, visual perception modelling, and advances in computational intelligence methods based pattern recognition.

Information Security Practice and Experience - Joseph K. Liu 2017-12-06
This book constitutes the proceedings of the 13th International Conference on Information Security and Practice and Experience, ISPEC 2017, held in Melbourne, Australia, in December 2017. The 34 full and 14 short papers presented together with 9 papers from the SocialSec Track in this volume were carefully reviewed and selected from 105 submissions. The papers cover topics such as blockchain, asymmetric encryption, symmetric encryption, lattice-based cryptography, searchable encryption, signature, authentication, cloud security, network security, cyber-physical security, social network and QR code security, software security and trusted computing, and SocialSec track.

**Research Methods: Concepts, Methodologies, Tools, and Applications** - Management Association, Information Resources 2015-01-31
Across a variety of disciplines, data and statistics form the backbone of knowledge. To ensure the reliability and validity of data, appropriate measures must be taken in conducting studies and reporting findings. Research Methods: Concepts, Methodologies, Tools, and Applications compiles chapters on key

considerations in the management, development, and distribution of data. With its focus on both fundamental concepts and advanced topics, this multi-volume reference work will be a valuable addition to researchers, scholars, and students of science, mathematics, and engineering.

**Entropy-Based Parameter Estimation in Hydrology** - V.P. Singh 2013-04-17
Since the pioneering work of Shannon in the late 1940's on the development of the theory of entropy and the landmark contributions of Jaynes a decade later leading to the development of the principle of maximum entropy (POME), the concept of entropy has been increasingly applied in a wide spectrum of areas, including chemistry, electronics and communications engineering, data acquisition and storage and retreival, data monitoring network design, ecology, economics, environmental engineering, earth sciences, fluid mechanics, genetics, geology, geomorphology, geophysics, geotechnical engineering, hydraulics, hydrology, image processing, management sciences, operations research, pattern recognition and identification, photogrammetry, psychology, physics and quantum mechanics, reliability analysis, reservoir engineering, statistical mechanics, thermodynamics, topology, transportation engineering, turbulence modeling, and so on. New areas finding application of entropy have since continued to unfold. The entropy concept is indeed versatile and its applicability widespread. In the area of hydrology and water resources, a range of applications of entropy have been reported during the past three decades or so. This book focuses on parameter estimation using entropy for a number of distributions frequently used in hydrology. In the entropy-based parameter estimation the distribution parameters are expressed in terms of the given information, called constraints. Thus, the method lends itself to a physical interpretation of the parameters. Because the information to be specified usually constitutes sufficient statistics for the distribution under consideration, the entropy method provides a quantitative way to express the information contained in the distribution.

**Primary Exergy Cost of Goods and Services** -

Matteo Vincenzo Rocco 2016-08-19
This book describes the Exergy-based Input – Output (ExIO) framework, a comprehensive methodology for assessing the primary fossil fuels requirements for the production of goods and services within a given economy from a lifecycle perspective. In the ExIO approach, exergy is assumed to be the best suited thermodynamic metric for characterizing fossil fuels. The mathematical formulation of ExIO is based on Input-Output analysis, which defines boundaries in time and space for any system or product analyzed, encompassing its entire lifecycle. The Hybrid-ExIO approach has been developed to increase the accuracy of results and to analyze energy systems in detail, leading to the definition of criteria and indicators for identifying and optimizing the primary fossil fuels requirements of system products. Lastly, the Bioeconomic ExIO model has been proposed to account for the side effects that the working hours required for producing goods and services have on the total primary fossil fuels consumption. As such, the book will be of considerable interest to both researchers and engineers in industry, offering them essential guidelines on the utilization of exergy and thermoeconomic analysis.

*Handbook on Project Management and Scheduling Vol.1* - Christoph Schwindt 2015-01-13
Due to the increasing importance of product differentiation and collapsing product life cycles, a growing number of value-adding activities in the industry and service sector are organized in projects. Projects come in many forms, often taking considerable time and consuming a large amount of resources. The management and scheduling of projects represents a challenging task, and project performance may have a considerable impact on an organization's competitiveness. This handbook presents state-of-the-art approaches to project management and scheduling. More than sixty contributions written by leading experts in the field provide an authoritative survey of recent developments. The book serves as a comprehensive reference, both, for researchers and project management professionals. The handbook consists of two volumes. Volume 1 is devoted to single-modal and multi-modal project scheduling. Volume 2

presents multi-project problems, project scheduling under uncertainty and vagueness, managerial approaches and a separate part on applications, case studies and information systems.

Entropy Applications in Environmental and Water Engineering - Huijuan Cui 2019-03-07 Entropy theory has wide applications to a range of problems in the fields of environmental and water engineering, including river hydraulic geometry, fluvial hydraulics, water monitoring network design, river flow forecasting, floods and droughts, river network analysis, infiltration, soil moisture, sediment transport, surface water and groundwater quality modeling, ecosystems modeling, water distribution networks, environmental and water resources management, and parameter estimation. Such applications have used several different entropy formulations, such as Shannon, Tsallis, Rényi, Burg, Kolmogorov, Kapur, configurational, and relative entropies, which can be derived in time, space, or frequency domains. More recently, entropy-based concepts have been coupled with other theories, including copula and wavelets, to study various issues associated with environmental and water resources systems. Recent studies indicate the enormous scope and potential of entropy theory in advancing research in the fields of environmental and water engineering, including establishing and explaining physical connections between theory and reality. The objective of this Special Issue is to provide a platform for compiling important recent and current research on the applications of entropy theory in environmental and water engineering. The contributions to this Special Issue have addressed many aspects associated with entropy theory applications and have shown the enormous scope and potential of entropy theory in advancing research in the fields of environmental and water engineering.

**Image Processing: Concepts, Methodologies, Tools, and Applications** - Management Association, Information Resources 2013-05-31 Advancements in digital technology continue to expand the image science field through the tools and techniques utilized to process two-dimensional images and videos. Image Processing: Concepts, Methodologies, Tools, and Applications presents a collection of research on this multidisciplinary field and the operation of multi-dimensional signals with systems that range from simple digital circuits to computers. This reference source is essential for researchers, academics, and students in the computer science, computer vision, and electrical engineering fields.